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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,485	07/31/2003	Matthew W. Holt	02708.0014.NPUS01	6408

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EXAMINER

LEPISTO, RYAN A

ART UNIT	PAPER NUMBER
2883	

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/633,485

Applicant(s)

HOLT ET AL.

Examiner

Ryan Lepisto

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9, 11-13, 15 and 17-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9, 11-13, 15, 17, 18 and 24 is/are allowed.
- 6) ☒ Claim(s) 19, 23, 25-33, 35 and 36 is/are rejected.
- 7) ☒ Claim(s) 20-22 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 19 and 33 objected to because of the following informalities: These claims recite the limitation "the metal plating of at least some of the optical fibers". There is insufficient antecedent basis for this limitation in the claim. The claims state that metal plating is applied to at least a portion of the second region, but this can be applied to any portion of the second region as a whole, not necessarily directly to the fibers. Since this is true, it is assumed that the metal plating applied to the at least a portion of the second region is different than the metal plating of at least some of the optical fibers in the second region. If this is supposed to be the same metal plating, the claim language should be changed to make this clear. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 19, 23, 25, 27-33 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by **Nakai et al (US 4,345,816)** (Nakai). Nakai teaches an optical fiber cable (Fig. 1) and seal for protection against a pressure differential between and high and low pressure environment comprising a plurality of optical fibers (2, column 3 lines 33-34)

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each having an optical glass (silica is an optical glass) core (column 1 line 14), a first region wherein the fiber (2) has a part of a metal (column 1 lines 16-17) coating (L_2) removed to expose the fiber, a third region wherein the fiber has at least a portion metal coating (right side, column 1 lines 61-62), an epoxy seal (5) bonded to both a second region (left side) and third regions wherein the fiber connects to electronics (column 1 lines 17-20) and the fiber and epoxy seal disposed in (pass through) a metal (metals are conductive) tube (4) that is further surrounded by a covers sleeve (1) that insulates all of regions from the surrounding environment (column 1 lines 59-64). The product-by-process limitations of the epoxy seal being molded with the second region being placed in a mold for a sufficient time to bond the epoxy to the metal plating and the metal plating being formed by chemical vapor deposition are only considered in the structure they add to the claim and not the process claimed. The structural limitations considered are the epoxy being bonded to the metal plating of the fibers and the structure of the fibers being metal plated. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).

The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the

product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., *In re Garner*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakai as applied to claims 19, 23, 25, 27 and 29 above, and further in view of **Ishiharada et al (US 5,333,227)** (Ishiharada).

Nakai teaches fiber cable described above.

Nakai does not teach expressly that the fiber is coated with chromium, nickel or gold.

Ishiharada teaches an optical fiber (Fig. 4) comprising a gas barrier sheath (7) made of gold (column 6 line 58 – column 7 line 10).

Nakai and Ishiharada are analogous art because they are from similar problem solving area, protecting optical fibers from external environments.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use gold as a metal sheath material as taught by Ishiharada in the fiber

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taught by Nakai since Nakai specifies any fiber that is reinforced by a plastic or metal coating (column 1 lines 16-17).

The motivation for doing so would have been increase protection of the fiber while not surrendering flexibility by choosing a metal that is a good gas barrier and does not impair the flexibility of the fiber (Ishiharada, column 6 lines 58-61).

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Nakai and **Diaz (US 4,135,587)**.

Nakai teaches the cable seal previously described.

Nakai does not teach expressly a polyethylene insulating sleeve.

Diaz teaches a seal housing for protect phone cables from external pressures (column 1 lines 32-46) comprising a housing (16, Fig. 7-8, 10-11) comprising multiple conductive polymer layers (31, 32a, 32b, 33a, 33b, 34a, 34b) (part polyethylene, column 9 lines 49-50) surrounding a portion of the cable (13).

Nakai and Diaz are analogous art because they are from similar problem solving areas, protecting cables from high-pressure environments.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have to tubes surrounding the regions as taught by Gould to be conductive polymers as taught by Diaz to create a continuous conductive path.

The motivation for doing so would have been to increase the integrity of the seal by using heat to deform the materials surrounding the cable to flow around the cable tightly (Diaz, column 2 lines 28-35).

Allowable Subject Matter

Claims 9, 11-13, 15, 17-18 and 24 are allowed.

Claims 20-22 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

With regard to claim 9: This claim is allowable over the prior art of record because the latter, either alone or in combination, does not disclose nor render obvious a method of forming a seal on a cable having a core material with the steps of removing an amount of an overlayer on the core to expose a surface of the core, creating a bonding layer by plating the exposed core with a metal forming a metal-plated surface, applying a bonding agent to a portion of the metal-plated surface by placing a region of the cable into a mold and applying epoxy to the region of the cable in the mold for a sufficient time to bond the epoxy to the metal-plated surface, in combination with the rest of the claimed limitations.

With regard to claim 15: This claim is allowable over the prior art of record because the latter, either alone or in combination, does not disclose nor render obvious an optical fiber cable including a plurality of optical fibers having silica cores, a first region where the fibers have not coating, a second and third regions where the fibers have a coating, metal-plating applied to the first region, an epoxy seal bonded to the metal plating of the fibers in the first region and extending partly onto the first and

second regions, a first conductive tube surrounding a portion of the second region, a second conductive tube surrounding a portion of the third region and a conductive housing surrounding a portion of the first region including the seal wherein the first and second tubes and the housing form a continuous conductive path.

With regard to claims 20 and 34: This claim would be allowable over the prior art of record if rewritten in independent form including all of the limitations of the base claim and any intervening claims because the latter, either alone or in combination, does not disclose nor render obvious a first conductive tube surrounding a portion of the second region, a second conductive tube surrounding a portion of the third region and a conductive housing surrounding a portion of the first region including the seal wherein the first and second tubes and the housing form a continuous conductive path, in combination with the rest of the claimed limitations.

With regard to claims 11-13, 17-18, 21-22 and 24: These claims are allowable over the prior art of record because they depend from claims with allowable subject matter.

With regard to claims 17 and 18: These claims would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 31 July 2006 have been fully considered but they are not persuasive.

In response the argument that Nakai does not teach a metal plating applied to at least a portion of the second region or an epoxy seal mold about the metal plating of at least some of the fibers in the second region. As previously discussed, the claims state that metal plating is applied to at least a portion of the second region, but this can be applied to any portion of the second region as a whole, not necessarily directly to the fibers. Since this is true, it is assumed that the metal plating applied to the at least a portion of the second region is different than the metal plating of at least some of the optical fibers in the second region. If this is supposed to be the same metal plating, the claim language should be changed to make this clear. Given this, the metal plating (4) is applied to a portion of the second region, just not directly to the fibers in the region. The epoxy seal (5) then is molded about the metal plating of the fibers since the molding covers portions of the fibers that still have the cladding applied to them, which can be metal as is shown in Fig. 1 right and left of the portion with the cladding removed.

In response to the argument that claims 23, 25 and 27-30 depend from 19 and therefore are distinct over the art for the reason 19 was argued to be: Claim 25 is independent and claims 23 and 27-30 depend from it. None of these claims depend from 19.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Lepisto whose telephone number is (571) 272-1946. The examiner can normally be reached on M-Th 7:30 AM - 5:30 PM.

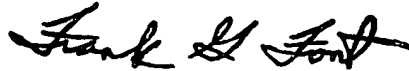
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ryan Lepisto
Art Unit 2883
Date: 8/17/06



Frank Font
Supervisory Patent Examiner
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